Impact of a Palliative Care Checklist on Clinical Documentation

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Abstract

Purpose

Checklists are used in many different settings for the purpose of standardization and reduction of preventable errors in practice. Our group sought to determine whether a palliative care checklist (PCC) would improve the clinical documentation of key patient information.

Methods

An initial review of 110 randomly selected medical records dictated by 10 physicians was performed. The authors identified portions of the dictated medical records that were included regularly, as well as those that were frequently missed. A PCC was drafted after final approval was obtained from the 13 faculty members. Dictations from 13 clinical faculties in the supportive care center were reviewed. A χ^2 test or Fisher's exact test was applied to assess the difference in overall checked rates before and after checklist use. A paired *t* test was used to examine the difference in the average complete rate and checked rates before and after checklist use.

Results

There were improvements in the documentation before and after the checklist for scores on the Cut-down, Annoyed, Guilty, Eye-opener questionnaire for alcoholism (79% *v* 94%; $P \leq .0001$), psychosocial history (69% *v* 95%; $P \leq .0001$), Eastern Cooperative Oncology Group performance status (38% *v* 81%; $P \leq .0001$), advance care planning (28% *v* 41%; $P = .0008$), and overall (78% *v* 95%; $P \leq .0001$). There was no significant improvement in the documentation for opioid-induced neurotoxicity (37% *v* 37%; $P = .9492$) or the Edmonton Symptom Assessment Scale (98% *v* 99%; $P = .4511$).

Conclusion

Our study showed that the use of a PCC improved the quality of the documentation of a patient visit in an outpatient clinical setting.

INTRODUCTION

Checklists are used in many different settings for the purposes of standardization and reduction of preventable errors in practice.[1-5] The general intent of such checklists is to improve memory recall, standardization, and adherence to ascribed best practices, and to reduce errors. A checklist allows easy communication among people involved in systems where it is in use. In medical systems that have implemented the checklist, improvements in patient outcomes, patient safety, and efficacy of resource use were observed.[1,3,5,6]

Palliative care (PC) in our cancer center is growing, both in the inpatient and outpatient setting. The outpatient clinic has an average of 600 patient encounters per month. The practice of PC encompasses multiple domains that include medical and

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physical symptoms and functional, psychosocial, and spiritual aspects. Discussions about end-of-life and advanced care planning (ACP) are incorporated into routine care. Such discussions, which influence pertinent medical decisions, can occur at different time points in the patient–PC team interaction. The patients seen in the PC clinic are often frail and have higher levels of distress than do those seen in other clinics; access to clinical care is therefore prioritized and, as a result, patients may see another PC physician. Internal audits detected variations in the documentation that required standardization. Such variations can pose a problem with optimal delivery of care. Several aspects of the patient's care need to be addressed in a limited number of visits to the outpatient center. An efficient system of clinical documentation is therefore imperative. A palliative care checklist (PCC) was designed in an effort to improve patient care by standardizing the way physicians document a patient's medical encounters. The PCC incorporates dictation of critical information that is essential for a high-quality PC encounter. Our group sought to determine the impact of a PCC on the clinical documentation of key patient information.

METHODS

This study was reviewed and approved by the institutional review board of the MD Anderson Cancer Center. Following the framework of define, measure, analyze, improve, and control, we identified the problem, measured and analyzed the steps in the dictation process, identified potential areas of breakdown, developed and implemented a PCC to improve documentation, and then measured success and the areas in which improvement was needed. After the lack of a standardized clinical documentation system was determined, 110 randomly selected medical records dictated by 10 physicians were reviewed. The authors identified those portions of the dictated medical records that were included regularly and those that were frequently missed and presented their findings to the entire faculty. A consensus was reached on items to be included in the PCC and implementation was supported by all faculty.

The key components of the PCC were ACP, the Cut-down, Annoyed, Guilty, Eye-opener (CAGE) questionnaire for alcoholism,[7] the Memorial Delirium Assessment Scale,[8] Eastern Cooperative Oncology Group Performance status (ECOG PS), the Edmonton Symptom Assessment Scale (ESAS),[9] assessment of constipation, screening for opioid-induced neurotoxicity (OIN), psychosocial history and counseling, physical examination, and integrative measures for symptom management. The PCC was disseminated and posted in clinical areas in the PC outpatient clinic. To encourage PCC adoption, e-mail reminders were sent to all physicians, PC and rotating fellows were educated on PCC use, and random checks were performed by the authors.

Six months after implementation, dictations from 13 clinical faculties in the PC outpatient clinic were reviewed. Random dictations 3 months before the implementation of the checklist and 3 months after implementation were compared. Improvement in documentation is not considered to be a change in the practice of delivery of care because all physicians followed the same practice patterns.

Successful overall documentation was recorded when physicians dictated six of 10 items correctly. For OIN and constipation, the documentation was considered to be correct if it contained at least one of the following: hallucinations, myoclonus, or confusion for OIN, and stool frequency, character, or last bowel movement for constipation. For narrative items such as ACP and integrative and psychosocial history, the consensus was to consider the item to be documented appropriately whether the physician stated any findings of any nature or purposely deferred. Physical examination was reported to be complete if the physician dictated at least six out of 10 systems.

Table 1. Summary of Frequency and Proportion for Before and After Checklist Use

Covariate	Overall, No. (%)	Before, No. (%)	After, No. (%)	P*
ESAS	631 (98.9)	320 (98.5)	311 (99.4)	.4511
OIN	210 (36.7)	105 (36.8)	105 (36.6)	.9492
Constipation	556 (88.5)	281 (89.2)	275 (87.9)	.5963
CAGE	553 (86.7)	258 (79.4)	295 (94.2)	< .0001
MDAS	563 (88.5)	275 (85.1)	288 (92)	.0066
ECOG	378 (59.2)	125 (38.5)	253 (80.8)	< .0001
Psychosocial	523 (82)	225 (69.2)	298 (95.2)	< .0001
ACP	220 (34.5)	92 (28.3)	128 (40.9)	.0008
Integrative	338 (53)	162 (49.8)	176 (56.2)	.1063
VS and PE × 5 SYS	623 (97.8)	314 (96.9)	309 (98.7)	.1757

Abbreviations: ACP, advanced care planning; CAGE, Cut-down, Annoyed, Guilty, Eye-opener; ECOG, Eastern Cooperative Oncology Group; ESAS, Edmonton Symptom Assessment Scale; MDAS, Memorial Delirium Assessment Scale; OIN, opioid-induced neurotoxicity; PE, physical exam; SYS, system; VS, vital signs.

*P values from χ^2 test or Fisher's exact test when appropriate.

Table 2. Change from Before to After Checklist Use

Item (average value based on physician)/Time	No.	Median	Range	Mean	SD	*P*
ESAS						
Before	13	1.00	0.92 to 1.00	0.98	0.03	
After	13	1.00	0.96 to 1.00	0.99	0.02	
Difference	13	0.00	−0.04 to 0.08	0.01	0.03	.3370
OIN						
Before	13	0.26	0.00 to 0.77	0.37	0.26	
After	13	0.26	0.08 to 0.75	0.38	0.25	
Difference	13	−0.02	−0.54 to 0.51	0.01	0.25	.8622
Constipation						
Before	13	0.88	0.64 to 1.00	0.89	0.11	
After	13	0.91	0.48 to 1.00	0.88	0.14	
Difference	13	0.00	−0.20 to 0.14	−0.01	0.11	.7294
CAGE						
Before	13	0.80	0.28 to 1.00	0.79	0.22	
After	13	0.96	0.82 to 1.00	0.94	0.06	
Difference	13	0.19	−0.12 to 0.54	0.15	0.21	.0262
MDAS						
Before	13	0.92	0.56 to 1.00	0.85	0.16	
After	13	0.96	0.60 to 1.00	0.92	0.11	
Difference	13	0.00	−0.12 to 0.38	0.07	0.14	.1150
ECOG						
Before	13	0.20	0.00 to 1.00	0.39	0.36	
After	13	0.87	0.00 to 1.00	0.81	0.27	
Difference	13	0.48	−0.12 to 1.00	0.42	0.38	.0016
Psychosocial						
Before	13	0.72	0.28 to 1.00	0.69	0.24	
After	13	1.00	0.76 to 1.00	0.95	0.08	
Difference	13	0.28	−0.08 to 0.54	0.26	0.20	.0006
ACP						
Before	13	0.24	0.04 to 0.67	0.28	0.18	
After	13	0.43	0.00 to 0.92	0.42	0.31	
Difference	13	0.24	−0.47 to 0.65	0.13	0.35	.1848
Integrative						
Before	13	0.52	0.08 to 1.00	0.50	0.30	
After	13	0.64	0.08 to 0.96	0.56	0.26	
Difference	13	0.08	−0.32 to 0.44	0.06	0.22	.3057
Physical examination						
Before	13	1.00	0.84 to 1.00	0.97	0.05	
After	13	1.00	0.88 to 1.00	0.99	0.03	
Difference	13	0.00	−0.05 to 0.08	0.02	0.04	.0951
Complete rate						
Before	13	0.68	0.49 to 0.79	0.66	0.11	
After	13	0.77	0.69 to 0.88	0.78	0.07	
Difference	13	0.11	0.01 to 0.21	0.12	0.07	< .001

NOTE. *P* values are from paired *t* test. Difference indicates after minus before. Abbreviations: ACP, advanced care planning; CAGE, Cut-down, Annoyed, Guilty, Eye-opener; ECOG, Eastern Cooperative Oncology Group; ESAS, Edmonton Symptom Assessment Scale; MDAS, Memorial Delirium Assessment Scale; OIN, opioid-induced neurotoxicity.

For each physician, the complete rate and correctly checked rate were estimated by 50 randomly selected dictations (25 before and 25 after the PCC; one physician only had 20 before and 20 after the PCC). For each physician, the correctly checked rate for each item was the percentage of checked items in 25 dictations before and 25 dictations after the PCC. The completion rate of each dictation was calculated for each patient among all 10 items. The average completion rate for 25 patients before and after the PCC intervention was estimated for each physician. A paired *t* test was used to examine the difference on the average completion rate and checked rates before and after the PCC for all physicians. A χ^2 test or Fisher's exact test was applied to assess the difference between overall checked rates before and after PCC use.

RESULTS

There were improvements in the documentation after the PCC for scores on the CAGE questionnaire (79% *v* 94%; $P \leq .0001$), psychosocial history (69% *v* 95%; $P \leq .0001$), ECOG PS (38% *v* 81%; $P \leq .0001$), and ACP (28% *v* 41%; $P = .0008$), and overall (78% *v* 95%; $P \leq .0001$). There was no significant improvement in the documentation for OIN (37% *v* 37%; $P = .9492$) and ESAS (98% *v* 99%; $P = .4511$). Table 1 lists the frequencies of reporting for each of the items on the PCC. The average of the checked rates for each item and the average complete rate for the 13 doctors and for individual physicians are reported in Tables 2 and 3, respectively.

DISCUSSION

Our study showed that the use of a PCC improved the quality of the documentation of a patient visit in an outpatient clinical setting. In other medical systems that use the checklist,

Table 3. Change of Check Rates and Completion Rate on the Basis of Each Provider

	Change (After − Before)												
Item	DR 1	DR 2	DR 3	DR 4	DR 5	DR 6	DR 7	DR 8	DR 9	DR 10	DR 11	DR 12	DR 13
ESAS	0.00	0.08	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	−0.04
OIN	0.06	0.51	0.08	0.01	−0.03	−0.04	−0.02	0.09	−0.20	−0.06	−0.54	−0.06	0.36
Constipation	0.14	0.04	0.08	0.09	0.00	−0.16	−0.04	0.12	−0.09	−0.20	0.04	−0.16	0.00
CAGE	−0.12	−0.07	0.00	0.40	−0.08	0.20	0.00	0.19	0.54	0.00	0.25	0.36	0.24
MDAS	−0.12	0.05	0.00	0.00	0.00	0.20	0.00	0.18	−0.10	0.00	0.26	0.38	0.04
ECOG	−0.12	0.03	0.68	1.00	0.60	0.32	0.08	0.83	0.48	0.68	0.83	0.00	0.08
Psychosocial	0.00	0.36	−0.08	0.48	0.32	0.04	0.20	0.54	0.28	0.08	0.25	0.48	0.44
ACP	0.40	0.65	−0.40	−0.04	−0.12	0.04	0.24	0.32	0.25	0.48	−0.47	0.48	−0.08
Integrative	0.28	0.19	−0.32	0.00	−0.04	0.00	0.32	−0.28	0.08	0.12	−0.04	0.44	0.08
Physical examination	0.00	0.00	0.04	0.00	0.04	0.04	0.00	0.08	−0.05	0.00	0.00	0.08	0.00
Completion rate	0.07	0.20	0.01	0.20	0.07	0.06	0.07	0.21	0.13	0.11	0.07	0.20	0.11

NOTE. Positive change means improvement.
Abbreviations: ACP, advanced care planning; CAGE, Cut-down, Annoyed, Guilty, Eye-opener; DR, doctor; ECOG, Eastern Cooperative Oncology Group; ESAS, Edmonton Symptom Assessment Scale; MDAS, the Memorial Delirium Assessment Scale; OIN, opioid-induced neurotoxicity.

improvement in the quality of medical care has been observed.[1,3,5,10] Our group developed a process analysis for clinical documentation. Appendix Fig A1 (online only) shows that various areas in which information may be missed and therefore not placed in the medical record can occur at different points in the clinic encounter. Problems may occur in the acquisition of information by the nurses and the physician. However, the use of assessment tools and a clinical packet minimizes this problem. The incidence of delirium and cognitive impairment in patients is minimal and with both the nurses and physician taking the patient's clinical history, patient reporting as a source of missed information is small. Face-to-face communication is conducted for every patient by the nurse and physician, allowing information to be passed on adequately. On the basis of these findings, the problem seems to be in the process of dictation. The use of a PCC promotes completeness of the medical record, which in theory can improve medical care, efficiency, and communication among members of the interdisciplinary team and can reduce the time spent in review of patient information.

Structured documentations that physicians follow generally increased timeliness and completeness.[3,10,11] The key areas of improvement were in the documentation of ECOG PS, CAGE questionnaire, and psychosocial history and in the overall documentation. There was no significant improvement in ESAS documentation, which is attributed to successful documentation before the implementation of the checklist leaving little room for improvement. Documentation of performance status is integral in PC because it is a useful prognostication tool. The use of the CAGE questionnaire assists in screening for potential negative coping in our patients and is critical in our practice. Discussion of psychosocial issues is a component of PC that is not typically covered in a single patient visit. Complete documentation is useful for the next physician on subsequent visits, allowing for better flow and effective use of limited clinical time.

Documentation in the area of ACP did not show any significant improvement. Failure to document resulted in lost time and opportunity to focus on other vital aspects of care. Repetition of information can cause distress and frustration on the part of patients and their families. Documentation on the discussion of integrative approaches and OIN showed no improvement after checklist implementation. The breakdown in translation of this information into the actual dictation that gets recorded in the medical record may be caused by a number of factors, such as time constraints, physician habits, difficulty adjusting to a new standardized format, and perhaps forgetting to use the PCC altogether.

Traditionally, a checklist lists a series of steps to be followed for the purpose of improved safety, compliance, completeness, and/or consistency. In the current electronic health records system in our institution, the use of a checklist as such is not feasible. Therefore, the checklist is used not as a mandatory step for note completion but is primarily a memory aid to help incorporate important aspects of a PC encounter into the dictated medical note. A new electronic health records system will be in place in our institution and a clinical documentation template was created following the checklist format. Physicians will be queried on the various items missed in the clinical documentation. Ongoing education of physicians and audits is performed routinely. The authors are optimistic that these will improve the rate of completion of documentation.

CONCLUSION

Our study has shown that using a checklist improved the documentation of clinical encounters in an outpatient PC setting. Refinement of the PCC to improve the quality of the clinical documentation is necessary. JOP

Authors' Disclosures of Potential Conflicts of Interest
Disclosures provided by the authors are available with this article at jop.ascopubs.org.

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References

1. Frakes MA, Van Voorhis S: Effectiveness of a challenge-and-respond checklist in ensuring safety behavior compliance by medical team members at a rotor-wing air medical program. Air Med J 26:248-251, 2007

2. Mikhael J, Baker L, Downar J: Using a pocket card to improve end-of-life care on internal medicine clinical teaching units: A cluster-randomized controlled trial. J Gen Intern Med 23:1222-1227, 2008

3. Hales BM, Pronovost PJ: The checklist–a tool for error management and performance improvement. J Crit Care 21:231-235, 2006

4. Sibbald RW, Chidwick P, Handelman M, et al: Checklist to meet ethical and legal obligations to critically ill patients at the end of life. Healthc Q 14:60-66, 2011

5. Verdaasdonk EG, Stassen LP, Hoffmann WF, et al: Can a structured checklist prevent problems with laparoscopic equipment? Surg Endosc 22:2238-2243, 2008

6. Haynes AB, Weiser TG, Berry WR, et al: Safe Surgery Saves Lives Study Group: A surgical safety checklist to reduce morbidity and mortality in a global population. N Engl J Med 360:491-499, 2009

7. Mayfield D, McLeod G, Hall P: The CAGE questionnaire: Validation of a new alcoholism screening instrument. Am J Psychiatry 131:1121-1123, 1974

8. Breitbart W, Rosenfeld B, Roth A, et al: The Memorial Delirium Assessment Scale. J Pain Symptom Manage 13:128-137, 1997

9. Bruera E, Kuehn N, Miller MJ, et al: The Edmonton Symptom Assessment System (ESAS): A simple method for the assessment of palliative care patients. J Palliat Care 7:6-9, 1991

10. Pollard SE, Neri PM, Wilcox AR, et al: How physicians document outpatient visit notes in an electronic health record. Int J Med Inform 82:39-46, 2013

11. McLean TW, White GM, Bagliani AF, et al: The use of a checklist in a pediatric oncology clinic. Pediatr Blood Cancer 60:1855-1859, 2013

AUTHORS' DISCLOSURES OF POTENTIAL CONFLICTS OF INTEREST

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Appendix

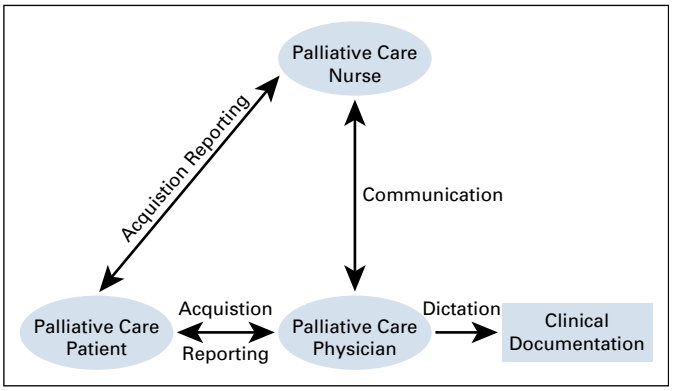

FIG A1. The process of clinical documentation.